C.D. Howe Institute
Commentary

The Border Papers

No Small Change

The Awkward Economics and Politics of North American Monetary Integration

William B.P. Robson
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In this issue...

Hopes that adopting a monetary system based on the US dollar would improve Canada's economic performance and elicit US accommodation of Canada's monetary needs are probably misplaced, making the country's current monetary regime — a floating exchange rate, inflation targets, and domestic accountability of policymakers — the most attractive option.

The Study in Brief

Canada's current monetary order is based on a money-creating central bank, a flexible foreign exchange rate, inflation targets, and political arrangements that hold monetary policymakers accountable for their performance.

Some critics argue that Canada should adopt a monetary order based on the US dollar. Among their arguments are that the Canadian dollar will inevitably disappear in a world of large currency blocks, that adopting the US dollar would reduce the costs of US/Canadian current and capital transactions; that a fixed exchange rate would improve the quality of business and government decisions in Canada; and that the United States would readily accommodate at least some of Canada's monetary needs.

Neither logic nor evidence supports forecasts of the Canadian dollar's inevitable disappearance. Canadians can choose, and their choice should be informed by both careful economic analysis and reasonable political assumptions.

To serve Canada's economic interests, a US-dollar-based monetary order would need to be complete enough to eliminate transaction costs and credible enough to induce changes in behaviour. Intermediate options — a pegged exchange rate or a currency board — are unattractive. Continued movements in the US/Canadian real exchange rate will induce speculative flows that are likely to undermine them.

Gaining all the benefits of complete and credible North American monetray integration would require US accommodation on several fronts: help with the cost of obtaining US currency; a voice at the monetary policy table; liquidity support for Canadian banks on reasonable terms; and further liberalization of crossborder trade and labour flows. But the United States has little to gain from monetary integration and is unlikely to offer such accommodation.

Since Canada's current monetary order has a track record of success, Canada should use its limited bargaining power with the United States to pursue other, more pressing goals, such as more secure access for its exports to US markets.

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The Border Papers

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Weakness in the Canadian dollar's exchange rate against the US dollar in late 2001 and early 2002, a time when North American economic and security cooperation was much in the news, revived an old debate about whether Canada should change its monetary order. The current monetary order has four main elements: a central bank with the power to create money at will, a floating exchange rate, a credible target for domestic inflation, and institutional arrangements through which policymakers may be held accountable for their choice of goals and the tactics they use in pursuing them.

Critics have proposed several alternative arrangements to the current order (see especially Courchene and Harris 1999; Grubel 1999; and Carmichael 2002). The first is a pegged US-Canadian dollar exchange rate or a fixed rate based on a currency board, which would preserve a separate Canadian currency and a distinct Canadian financial system but would constrain key domestic policies. A more radical option would see Canada unilaterally adopt the US dollar as its currency. Finally, there are proposals for currency unions involving cooperation from the United States, with the more expansive critics envisioning a European-style currency union for Canada, the United States, and possibly Mexico.

We look at the implications of each option for Canadian economic performance and political arrangements relative to the current order. Our main contribution to the debate is our attempt first to identify areas where US cooperation affects the attractiveness of an option and then to speculate on the likelihood of such cooperation.

Our key conclusion is that Canada's current monetary order is the most attractive option on offer. The best among the various alternatives are those involving complete monetary integration with the United States. Arrangements that maintain a separate currency would be prone to instability, depriving Canada of the current order's macroeconomic benefits without eliminating the costs associated with separate currencies and financial systems. Unilateral adoption of the US dollar eliminates many of those costs. Such an approach, however, presents important macroeconomic and financial risks while raising awkward questions about Canadians' ability to hold monetary policymakers accountable.

Negotiated arrangements that give Canadian voters a voice at the North American monetary table, deepen the integration of North American markets for goods, capital, and labour, and provide Canadian financial institutions with access to the services of a North American central bank are much more attractive, further reducing the macroeconomic costs of monetary integration, improving the prospects for microeconomic gains, and retaining some accountability of monetary policymakers to the Canadian electorate. We judge, however, that the prospects for achieving US cooperation on these fronts are poor, since US officials and voters have no obvious reason to approve the necessary changes.

In short, the alternatives to Canada's current monetary order that are most attractive may be least achievable. Canadians who desire a new, US-dollar-based monetary order face an awkward choice: they can opt for unilateral adoption of the US dollar, accepting its costs; or they can seek US cooperation on monetary matters

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as part of a wider economic and political package involving other issues where Canada has something to offer. The latter raises the questions of what Canadians might offer, and whether any offer Canadians were willing to make would not be better deployed for other purposes — such as gaining more secure access for Canadian exports to the US market. In view of the demonstrated success of Canada's current order in producing low inflation and striking a good balance between central bank operational autonomy and political accountability, we conclude that maintaining a separate, floating Canadian dollar is the best monetary choice for Canadians.

The Current Order, Its Critics, and the Options

We begin with a brief overview of the current monetary order and then canvass the arguments that its critics make in support of alternative arrangements.

The Current Monetary Order

The central institution of Canada's monetary order is the Bank of Canada. Through purchases and sales of assets, and through the extension of credit to the banking industry, the Bank can foster the creation of as many, or as few, Canadian dollars as it wishes, providing liquidity to the financial system and influencing interest rates, spending, output, employment, and the rate of inflation. A second key feature of the current order is the flexible, or floating, exchange rate that, except for the 1962–70 period, Canada has maintained for more than 50 years.

Such arrangements can support a variety of goals for monetary policy, but since 1991 Canada's monetary order has had a third feature: domestic inflation targets. By and large, these targets have been achieved; in fact, their recent renewal for a further five-year period has passed almost unnoticed. The combination of inflation targets and a floating exchange rate is now an established and credible regime.[1]

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Finally, Canada's monetary order provides for the political accountability of the monetary authorities in a variety of ways. The current 2 percent inflation target was set jointly by the minister of finance on behalf of the elected government and the Bank of Canada. Although the day-to-day tactics of monetary policy are in the Bank's hands, the minister is fully informed and regularly consulted about these matters.[2] In extreme circumstances, the minister can overrule the Bank by issuing a written directive. In matters of the liquidity and solvency of the financial system, consumer protection, and competition policy, institutions such as the Bank of Canada, the Office of the Superintendent of Financial Institutions (OSFI), and the Canadian Deposit Insurance Corporation (CDIC) exercise authority given to them by various acts of Parliament.

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1 Pressure on a central bank to monetize government debt can undermine the credibility of low inflation, so it is noteworthy that since 1995 a sharp decline in federal government debt relative to gross domestic product has also supported Canada's inflation targets.

2 Over the past decade, the Bank has improved its reporting to the public through its quarterly Monetary Policy Reports and Updates and, more recently, by the regular (every six weeks) communications that accompany decisions about where to set its target range for the key overnight lending rate.

The current monetary order is the product of a long and often difficult history, including episodes of monetary instability marked by conflict between the Bank of Canada and the elected government. The relative calm on the monetary front over the past decade stands out as remarkable, in contrast to both previous turbulence and the problems that have affected other aspects of Canadian economic policy in recent years.

Arguments for Change

Some feel that smaller currencies, including the Canadian dollar, will be marginalized and ultimately disappear in a world of big currency blocks.

The current monetary order nevertheless has many critics. Some feel that smaller currencies, including the Canadian dollar, will be marginalized and ultimately disappear in a world of big currency blocks. Others worry that a separate currency hampers crossborder transactions, macroeconomic integration, and Canadian competitiveness. Still others dislike the declining US/Canadian dollar exchange rate and/or wish to give Canadian businesses and politicians a salutary jolt.

Coming to Terms with the Inevitable

The argument that the Canadian dollar will ultimately disappear is important. If we are convinced that (US) "dollarization" is inevitable, we can limit our discussion to the forms North American monetary integration might take and to what Canadians should do to influence the outcome.

This argument has it that Canadian firms and households will dollarize their activities as their individual situations warrant, either causing the Canadian dollar to fade from the market or forcing the federal government to bow to the inevitable by getting "ahead of the curve" and imitating those Latin American governments that have recently adopted the US dollar.[3]

Reducing Transaction Costs

Other arguments note that exchanging currencies when travelling, trading, or conducting financial transactions across national boundaries is costly, that separate currencies create exchange rate risk when items are priced in advance and/or sold on credit, and that hedging such risk is costly and can be difficult over long time horizons. Where there are different currencies, there are different interest rates, too; these can fluctuate, affecting relative prices of capital assets and liabilities. Again, insurance against such risks is available only at a cost.

In Europe, the introduction of the euro was expected to eliminate costs amounting to 0.4 percent of gross domestic product (GDP) annually. Savings from eliminating the Canadian dollar would almost certainly be smaller, since only one of a pair of currencies would disappear, and the breadth and liquidity of the US/Canadian dollar market is greater than those for most European currencies. The only costs for which we can make even a rough estimate — the costs of US/Canadian dollar currency transactions — amount to perhaps $2.9 billion annually, some 0.26 percent

3 Ecuador adopted the US dollar amid a major economic crisis in 2000; El Salvador and Guatemala did so in 2001.

of GDP.[4] Some commentators have argued that the reductions in transaction costs associated with a common currency are likely to generate significant increases in the volume of trade between Canada and the United States, and that these, perhaps working in conjunction with other potentially beneficial effects of abandoning the current monetary order will, in turn, give rise to a significant improvement in Canada's real economic performance. For example, Frankel and Rose (2000), extrapolating from the econometric study of a large sample of currency unions, suggest that Canada's adopting the US dollar as its domestic currency could lead to a 36 percent increase in the country's GDP over a ten-year period.

Forestalling Further Declines in the Exchange Rate

Unhappiness over the downward trend in the US/Canadian dollar exchange rate since the 1970s is also a factor in current debates. Some Canadians even seem to think that the Canadian dollar could be replaced one-for-one by the US dollar, making them instantly 60 percent richer.[5]

There is much to say about the falling dollar. For now, however, we note only that, if the exchange rate regime is itself an important direct or indirect contributor to the dollar's decline, a durable fixed exchange rate might change Canadians' lives for the better. But if it is not, the same fundamental forces that have driven the dollar down will still operate, manifesting themselves in ways that might change Canadians' lives for the worse.

Giving Businesses and Policymakers a Salutary Jolt

Many critics of the current monetary order believe that it induces poor performance from Canadian businesses and policymakers.

Many critics of the current monetary order believe that it induces poor performance from Canadian businesses and policymakers. With reference to the private sector, this "lazy manager" hypothesis has it that, instead of making the effort to meet foreign competition head on, Canadian firms rely on a weak dollar to keep them in business. As for policymakers, the basic concern is similar: a weak dollar buffers the Canadian economy from the effects of high taxes, perverse regulations, labour market rigidities, and other policies that hinder competitiveness (Grubel 1999, 17–18). By forcing Canada to meet foreign competition without such a prop, supporters of a fixed exchange rate expect to expose the inefficiencies of these policies and oblige politicians to change them.

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4 Total US/Canadian dollar trading in 2001 probably amounted to some $9.7 trillion, of which $2.4 trillion were spot transactions, $0.5 trillion were outright forward transactions, and $6.8 trillion were swap arrangements. Most of the forward and swap transactions incur relatively small transaction costs: based on data on spreads from traders, we estimate that a one-way conversion would cost some 1.7 basis points. For the spot transactions, we estimate the following amounts and conversion costs: interbank, $1.3 trillion at 1.6 basis points; large financial customers, $0.7 trillion at 2.2 basis points; large nonfinancial customers, $0.4 trillion at 2.2 basis points; small nonfinancial (retail) customers, $0.1 trillion at 125.5 basis points. At a weighted average of 3.0 basis points, this calculation yields a total transaction cost of $2.9 billion for US/Canadian dollar trading in 2001.

5 In a commentary on the last federal election, Conrad Black, the future Lord Black of Crossharbour, remarked: "[I]t may be only a matter of time before some well-liked American president, a future Roosevelt or Kennedy, offers a 'Helmut Kohl' solution — parity for the US and Canadian dollars as part of a federal union" (Black 2000).

The Options

Several remedies for these problems are on offer, some less drastic than others. These include:

- a pegged rate;
- a currency board;
- unilateral dollarization;
- negotiated dollarization; and
- monetary union.

A Pegged Rate

All the instruments of monetary policy would need to be deployed to keep Canada's macroeconomic performance in line with the exchange rate target.

Fixing the US/Canadian dollar exchange rate is technically straightforward. The federal government would announce that, henceforth, the Canadian dollar would be redeemable in US dollars at a given price. The Bank of Canada, which would continue to issue notes and facilitate the creation of financial institution deposits in its own accounts, could create new funds when the everyday workings of the financial system or a crisis required it. Any such actions would, however, have to be consistent with holding the peg: all the instruments of monetary policy — including the purchase and sale of foreign exchange reserves, the volume of Canadian dollars created, and the setting of short-term interest rates — would need to be deployed to keep Canada's macroeconomic performance in line with the exchange rate target.

A Currency Board

Under a "pure" currency board, all Canadian dollar monetary liabilities of the Bank of Canada or its successor institution would be matched by holdings of US dollars.[6] A currency board can provide only limited emergency support to the domestic financial system, since — unless it "cheats" — it cannot issue new currency without obtaining a matching amount of foreign assets.

Unilateral Dollarization

The unilateral adoption of the US dollar as the ordinary currency of Canadian business is the next possibility. Notes and coins in the hands of the public and financial institutions would be redeemed for US currency at a predetermined exchange rate and then destroyed. All contracts denominated in Canadian dollars, including bank accounts, would be redenominated in US dollars, probably at the same exchange rate used for redemption of currency.

Negotiated Dollarization

Under negotiated dollarization, the United States might ease the transition to the new arrangement and provide ongoing support. Under a "Treaty of Monetary

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6 Less rigorous versions also exist. Argentina's recently abandoned arrangement, usually referred to as a currency board, in fact allowed up to one-third of central bank reserves to consist of peso-denominated securities of Argentina's federal government. See Chang (2000, 3).

Association" (Chang 2000), for example, the United States might provide at zero dollars or low cost for the initial replacement of the domestic monetary base. The two countries might agree on terms under which the United States would be willing to supply extra liquidity to the Canadian system in the event of a domestic banking crisis.

Monetary Union

Still deeper integration might transform the Bank of Canada into a thirteenth district bank of the US Federal Reserve System (the Fed), or even establish a new common currency and a new central bank for Canada and the United States, and perhaps Mexico as well. Grubel (1999) recommends a jointly governed central bank with voting weights determined by population and national income. Existing national central banks could continue to exist as branches of the supranational bank, and national supervisory and regulatory authorities could still exist, but the arrangement would require some cross-jurisdiction harmonization of responsibilities. A monetary union would clearly involve extensive changes to domestic legislation in both Canada and the United States.

Insights into the Economics and Politics of Money

Three considerations — two economic and one political — need discussion as a prelude to the assessment of the options outlined above.

The Durability of Well-Managed Currencies

Monetary exchange is multilateral, and Canadians accept Canadian dollars for the things they sell because they expect to be able to use them to buy other things.

Important forces support a move to fewer separate currencies, particularly in increasingly economically integrated regions. A common means of exchange and unit of account is an advantage — eliminating exchange costs, making relative prices easier to grasp, and making debt and wage contracts more transparent (see von Furstenberg 2002).

These advantages do not, however, mean that Canadians are likely to cease using the Canadian dollar of their own accord. Monetary exchange is multilateral, and Canadians accept Canadian dollars for the things they sell because they expect to be able to use them to buy other things. These "network externalities" are reinforced by the obligation to pay taxes in Canadian dollars.

The Extent of Dollarization in Canada

Canadian individuals and firms that buy, sell, and raise capital in the US dollar monetary network may find the US dollar attractive for accounting and exchange purposes. Firms exposed to exchange rate risks by their US dollar business may, furthermore, persuade Canadian suppliers to share those risks by pricing their products in US dollars. Employees of Canadian firms living in the United States or otherwise exposed to US/Canadian dollar exchange rate movements may also receive some of their compensation in US dollars. But none of these factors heralds the spontaneous demise of the Canadian dollar.

Figure 1 presents some evidence on foreign currency deposits (which are nearly all US dollar deposits) of Canadians in Canadian banks as a share of total deposits. The degree of dollarization in Canada, measured in this way, is modest. Although it increased in the 1990s to about 10 percent, possibly because of the growing volume of crossborder trade generated by the Canada-US Free Trade Agreement and the North American Free Trade Agreement (NAFTA), dollarization was higher at times in the 1970s than it is now. Furthermore, its growth seems to have stopped around 1998 — just when the Canadian dollar's most recent troubles began and predictions of the currency's inevitable disappearance gained fresh strength.[7]

Market Dollarization

Will Canada suffer if market dollarization continues on its own? Even if the upward trend evident in Figure 1 during the 1990s were to resume, it is not clear what problem would be solved by getting "ahead of the curve." The movements in Figure 1 are not associated with simultaneous fluctuations in Canada's financial health and economic performance. It may be unusual for two currencies to compete for the affections of individuals and businesses within one country, but there is no reason to believe that such a situation is anything other than a normal response to growing crossborder transactions. Policymakers should react simply by making their own currency as attractive as they can.

There is nothing inevitable about a single currency in North America: Canadians can choose.

Sufficiently bad economic policies — high inflation being the most important — can overcome network externalities, inducing households and firms to abandon the local currency as a unit of account and even as a means of exchange. Even in periods of high and hyperinflation, however, the use of local currency shows remarkable persistence; and with low inflation well established in Canada, the Canadian dollar is under no threat from such forces.[8] There is nothing inevitable about a single currency in North America: Canadians can choose.

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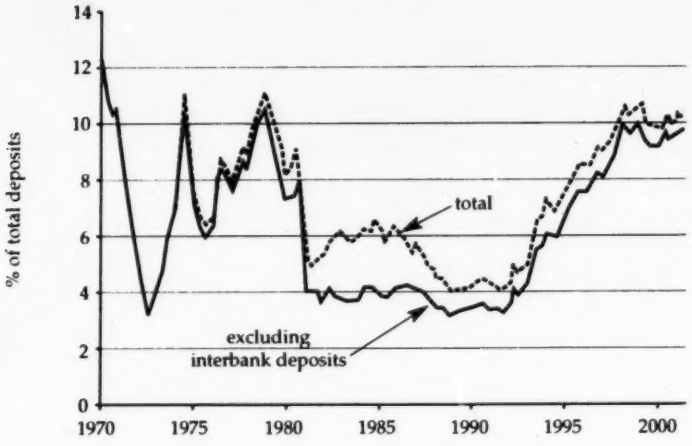
7 Measured in relation to broader measures of Canada's money stock, the numbers are smaller: foreign currency deposits by the public were 9 percent of M3 and 6 percent of M2++ in early 2002. A recent study by Murray and Powell (2002) presents additional evidence on the extent and limits of US dollar use in Canada. Drawing on US sources, they find evidence of a rapid rise in Canadian holdings of US currency in the late 1980s and early 1990s — flows that may have been related to increased shopping by Canadians in the United States and tax-driven cigarette smuggling. That increase appears, however, to have been largely reversed by the end of the decade. Murray and Powell also look at the US dollar as a unit of account in Canada and find that use is less widespread than is sometimes claimed. In a pilot study of a sample of 100 firms, a mere 6 percent were found to quote prices to Canadian customers in US dollars only, with 77 percent using Canadian dollars only and 17 percent both currencies. Of the sample group, 23 percent used Canadian dollars only in quoting prices to foreign customers; 17 percent used a combination of currencies, including the Canadian dollar, and the remaining 60 percent used either the US dollar or the local currency of their customers. As well, 82 percent of the same sample prepared their financial statements in Canadian dollars only.

8 Heymann and Leijonhufvud (1995) offer an excellent account of how network externalities support the use of even rapidly inflating currencies. Economies can also dollarize, even without rapid inflation, if a pegged exchange rate begins to look shaky. In that situation, people do not wish to be caught holding local currency when the peg gives way, so they try to unload it and avoid accepting it. But this prospect is even less relevant to Canada's current regime. A floating exchange rate would respond to doubts about the durability of its level by falling to a level that is credible, eliminating the incentive for any but specialist currency speculators to move out of the currency.

Figure 1: ***Foreign Currency Deposits of Canadians in Canadian Banks, 1970–2001***



Sources: Statistics Canada, CANSIM database; authors' calculations.

The Significance of Real Exchange Rate Movements

A second key consideration is that real exchange rate movements are what matters. The distinction between the nominal exchange rate (the price at which one Canadian dollar trades against one US dollar) and the real exchange rate (the nominal exchange rate adjusted for differences in national inflation rates) is critical. Advocates of changing Canada's nominal exchange rate regime implicitly assume that this change would also alter the behaviour of the real exchange rate. Their case is substantially weakened, however, if the forces driving the real exchange rate remain at work regardless of the regime.

The US/Canadian Dollar Real Exchange Rate

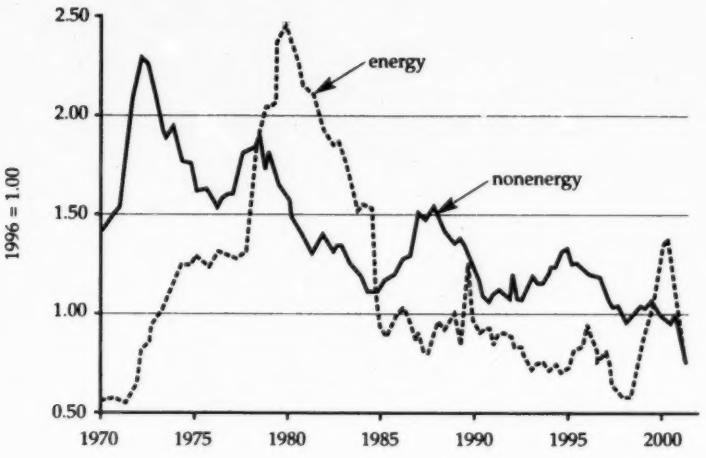
If the real exchange rate between Canada and the United States did not change over time — that is, if the relative price of a representative set of goods and services produced or consumed on either side of the border did not change — the only factor that would move the US/Canadian dollar nominal exchange rate would be different rates of inflation in the two countries. (This is why countries that are prone to inflation may find a fixed nominal exchange rate a useful external constraint.) But the relative prices of goods and services produced in different countries do change over time, and the US/Canadian dollar real exchange rate has not remained constant.

A major factor explaining movements in the real exchange rate is the greater importance of primary commodities in Canadian output and trade. As a share of GDP, the production of commodities is roughly three times higher in Canada than in the United States, and while Canada is a substantial net exporter of commodities, the United States is a net importer.[9] If the prices of primary commodities fall relative to those of other goods and services, then — other things being equal — the US/Canadian dollar real exchange rate falls. As Figure 2 shows, over the past 30 years the trend of commodity prices has been downward.

Other factors also influence the exchange rate, and the shrinking weight of commodities in Canadian trade should reduce their significance over time. The Bank of Canada has developed a relatively simple equation that uses the prices of energy and nonenergy commodities and short-term US/Canadian interest rate

9 Primary commodities, by a relatively narrow North American Industrial Classification System definition — products of agriculture, forestry, fishing, hunting, mining, and oil and gas extraction — are 6.2 percent of GDP in Canada and 2.2 of GDP in the United States. Canadian net exports are 3.9 percent of GDP; US net imports are 0.8 percent of GDP.

Figure 2: ***Prices of Canadian Commodity Exports, 1972–2001***
(in real US dollars)



Sources: Statistics Canada, CANSIM database; United States, Department of Commerce, Bureau of Economic Analysis; authors' calculations.

differentials. Variations on this equation have proved capable of predicting the broad movements in the real exchange rate from the 1970s to the present. Figure 3 shows the performance of a version of this model that uses only these variables, with real exchange rate predictions converted back into nominal exchange rates by multiplying by relative rates of inflation.[10] The figure does not show a curve simply fitted through historical data. The predicted values for the past six years are generated from an equation estimated from data from 1972 to 1995.

Figure 3 does not demonstrate that the Canadian dollar responds only to these factors, but it does shift the burden of proof onto those who maintain that the workings of foreign exchange markets themselves are behind the dollar's movements.

Changing the Fundamental Forces

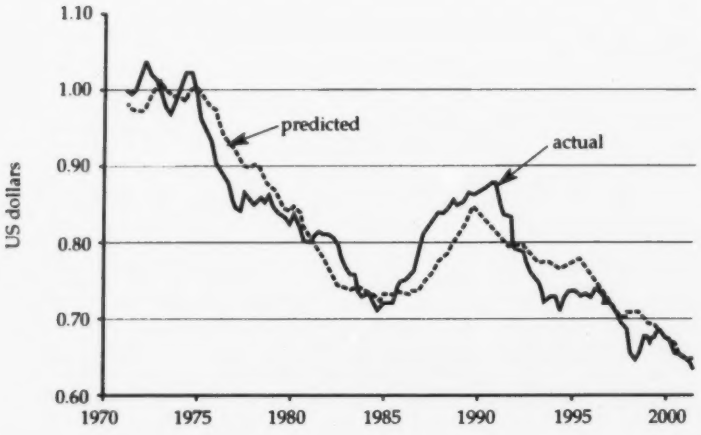
Might the determinants of the US/Canadian dollar real exchange rate change with a fix? Some of the fundamental forces behind the Canadian dollar's movements — Canada's relatively greater reliance on commodities, for example — might change for the better under an alternative regime.[11] Many critics certainly seem to believe this.

One argument is that, without the veil that a floating exchange rate places over relative price movements — especially changes in the price of Canadian exports relative to imports — Canadians would make better economic decisions. More transparent price movements would help workers' wage demands and businesses' pricing policies to adapt faster to market conditions. There is little convincing evidence to support this intuitively appealing idea, which was often advanced in support of the euro. The single currency may eventually boost European productivity, but there is no sign yet of that happening. And in countries such as Panama and Liberia, long-standing dollarization did not obviously produce the

10 Laidler and Aba (2002) discuss this model in detail; see also Murray (1999). For other recent explorations of this type of equation, see Charron (2001) and Murray, Zelmer, and Antia (2000), both of which find that a handful of forces that can reasonably be regarded as exogenous to the exchange rate regime appear to explain the bulk of the medium-term variation in the exchange rate.

11 We note that the short-term interest rate differentials in the model illustrated in Figure 3 might be capturing variations in actual or expected rates of return on investment that would be different if Canada's productivity performance were different. From a statistical point of view, this proposition is difficult to test; many of the indicators that could stand in for these returns in such an equation are measured much less exactly than are interest rates, and they tend to show up less well in econometric tests.

Figure 3: ***The US/Canadian Dollar Exchange Rate — Dynamic Simulation and Actual, 1973–2001***



Source: Authors' calculations.

sort of additional private sector dynamism that greater transparency and flexibility are supposed to encourage.

A second, related argument is that, without the shield against international competition provided by a low and declining exchange rate, "lazy managers" would more readily make productivity-enhancing investments and innovations. Most measures of productivity growth do show Canada lagging the United States during the 1990s.

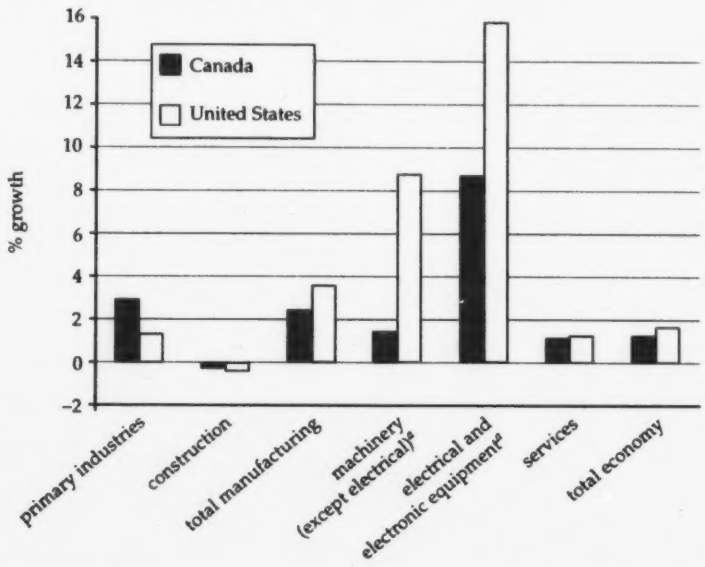
There are, however, reasons to be particularly skeptical about the likely effectiveness of exchange-rate-based remedies for this problem. To begin with, the suggestion that Canadian firms ignored opportunities to enhance productivity in the 1990s has ramifications well beyond the monetary order. If true, this suggestion points to profound deficiencies in corporate governance within Canada. And if the declining exchange rate played a role, then other cost-lowering factors — lower energy prices, wage restraint, or lower taxes — ought to have had similar effects, in which case one might ask why Canada should not adopt simpler methods for reversing them, such as raising input prices or taxes (a point raised by McCallum [2000]).

Were this hypothesis true, moreover, inferior productivity ought to pervade the economy and affect particularly sectors producing tradeable goods and services. But serious Canadian-US productivity growth differentials are limited to the machinery and electrical and electronic equipment sectors (see Figure 4). These sectors are relatively larger in the United States, and superior US performance in them more than accounts for the entire US aggregate advantage. Elsewhere, Canadian firms sometimes do a little better than their US competitors and sometimes a little worse, but nowhere is the difference stark, particularly when allowance is made for the uncertainties that cloud the measurement of productivity.

A third argument is that a declining dollar has disguised the effects of, and hence prolonged, ill-designed economic policy. This "bad policymaker" hypothesis rests on superficially supportive data: there is much to criticize in Canadian economic policy since 1970. It is a large leap, however, to assert that Canadian policy would have been better overall with a fixed rate in place. Such systems are not, to cite a frequent claim, always effective in restraining government borrowing.[12] Even within national currency unions — the strongest form of exchange rate restraint

12 Mundell, for example, calls budget deficits "anathema inside currency unions" (Friedman and Mundell 2001, 26). Fixed exchange rates do constrain monetization of government debt. But in Europe, the concern was that currency union would therefore limit the impact of fiscal deficits on national credit ratings and interest rates, thus promoting fiscal profligacy. That is why the establishment of targets for deficits and debts accompanied the move to a currency union.

Figure 4: ***Labour Productivity Growth, Canada and the United States, 1989–99***



a Computer and office equipment are included in machinery in the United States and in electrical and electronic equipment in Canada.

Source: Adapted from Rao and Tang 2001, based on data from Statistics Canada and the US Department of Commerce, Bureau of Economic Analysis.

possible — provinces, states, and cities not only resort to deficits, but also sometimes run up debts so large that they have defaulted. And Canadian policymakers have delivered better policies under the current order in the 1990s: the deepening of North American free trade under the NAFTA, and a major fiscal consolidation that has reduced government interest costs and taxes.

Without a flexible exchange rate in the 1980s and 1990s, it is likely that disinflationary, indeed outright deflationary, pressures on Canada would have been stronger (as we demonstrate in the next section). Under those circumstances, it is possible that protectionist forces would have defeated further progress toward free trade or undermined what had already been achieved. The policy approaches that were dominant until the late 1980s — which saw fiscal and monetary policy as complementary tools in short-run cyclical management — make it conceivable that Canadian governments would have responded to the deflationary pressure of a fixed rate with laxer, not tighter, fiscal policy.

A fourth important hypothesis notes that a declining exchange rate increases the price of imported investment goods relative to that of domestic labour and to that extent might inhibit domestic investment and encourage low-value-added jobs. This argument is hard to evaluate, partly because it implicitly assumes that Canada's real exchange rate would have behaved differently had the nominal rate been fixed.[13] Had the real rate behaved as in fact it did, but with a fixed nominal rate in place, then the relative prices of imported investment goods and Canadian

13 Lafrance and Schembri (1999) note that some 70 percent of the machinery and equipment installed by firms in Canada is imported, and that the gap between US and Canadian machinery and equipment investment (expressed relative to GDP) widened during the 1990s. Unhelpfully for the hypothesis that the exchange rate was to blame, however, the narrow gap in the early 1990s was an aberration: the gap was no different in the late 1990s from what it had been in the early 1980s. Harris (2000) finds evidence that exchange rate misalignments may influence productivity, but he uses deviations from purchasing power parity as a measure of misalignment, which implicitly assumes that real exchange rate changes would be different under a fixed regime. Dupuis and Tessier (2000) search the Canadian data for evidence that investment has suffered from extra volatility in the real exchange rate associated with a flexible nominal rate, but fail to find any. Lamarre (2002) also fails to find a link between the declining dollar and weaker productivity growth, and Dupuis and Tessier (2000) show how bivariate models suggesting that such a link exists are not robust to the inclusion of more variables.

labour would have moved exactly as they did. One can go further and argue that the extra slack and financial stresses that would have accompanied declining domestic prices and wages under a fixed rate might have weakened investment by more than actually occurred.

The State's Role in Monetary Matters

It is no accident that boundaries of currency areas and countries tend to coincide.

A final key consideration is the importance of politics in monetary affairs. It is no accident that boundaries of currency areas and countries tend to coincide. Money's symbolic importance is no longer decisive, as the replacement of national icons on European currency in 2002 demonstrates. But money matters in other ways that are legitimate objects of interest for citizens who, in any democracy, want to hold policymakers accountable for their activities.

Seigniorage

The coining of precious metals, and later the regulation and issue of paper money, has long been a governmental prerogative. In advanced countries with well-developed systems of taxation, however, seigniorage is no longer a major source of revenue. In Canada, for example, its yield equals only 1.3 percent of federal tax revenue.[14] Nevertheless, seigniorage is relevant to any proposal to replace the Canadian dollar completely.

Goals of Monetary Policy

Monetary policy is the key tool of macroeconomic management and a legitimate focus of interest by voters. Most people would agree that, even if the mechanisms involved work best when they are indirect, the makers of monetary policy should be ultimately accountable to voters for the goals they set and their performance in achieving them.

The Public Interest in Financial Systems

Network externalities, moreover, justify a public role in the workings of monetary systems that is evident in many functions of national central banks, finance ministries, and supervisory organizations. Such functions include providing lender-of-last-resort facilities when financial institutions run short of liquidity, backstopping payments systems, insuring deposits, policing financial imprudence or fraud, and ensuring competition in the financial sector.

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14 For this discussion, the interest saving on the share of federal government liabilities that are notes and coins is the most pertinent measure of seigniorage. Notes and coins outstanding in Canada averaged $37.5 billion from April 2000 to March 2001. The average effective interest rate on net federal debt in fiscal year 2000/01 was 6.5 percent. Multiplying the former by the latter yields an interest saving of $2.4 billion, representing 1.3 percent of that fiscal year's federal gross tax revenue.

The Alternative Regimes: Economic Impacts

We now take a more detailed look at the impacts that the options we identified above would have on Canada's current monetary order.

Macroeconomic Impacts

Movements in the US/Canadian dollar real exchange rate that do not arise from a floating nominal rate would still continue under a US-dollar-based regime. They would, however, emerge through movements in Canadian prices and costs, including wages, relative to those in the United States.

Real Exchange Rate Movements under a Fixed Rate

For the above reason, a constant nominal exchange rate or a common currency would not make Canada's price level move with the US price level. Prices in a single monetary area will, on average, reflect the interaction of the supply of money with the demand for it. However, relative prices in different parts of the area that are affected by different forces can cause local price levels to diverge for years at a time.

We cannot, of course, predict Canadian price movements under a fix, but we can turn to history for guidance. Figure 5 shows five-year average annual inflation rates since 1960: actual experience in both the United States and Canada; and a hypothetical inflation rate in Canada that would have resulted had the real exchange rate movements that actually occurred between the two countries occurred under a fixed exchange rate.[15]

A fixed nominal exchange rate would have yielded an average rate of price increase not only lower than actually experienced, but also lower than that experienced in the United States.

With a long-term decline in Canada's real exchange rate, a fixed nominal exchange rate would have yielded an average rate of price increase not only lower than actually experienced, but also lower than that experienced in the United States. Superimposed on that long-run trend would have been medium-term fluctuations greater than those actually experienced. During the commodity boom of the early 1970s, prices would have risen more rapidly. Subsequent downward pressure on the real exchange rate would, however, have reversed these effects; the rate of price increase in the 1980s would have been lower, while, during much of the 1990s, prices would actually have fallen.

It may be objected that, under a fixed rate, the US/Canada interest rate differential would have been less volatile than it actually was, that the real exchange rate would have moved less, and that Canadian inflation under a fix would have fluctuated less than Figure 5 suggests. As far as short-run variability is concerned, there is some merit to this objection, but the longer-term movements in inflation under a fixed rate depicted in Figure 5 are largely due to the influence of commodity prices on the real exchange rate, not to the interest rate differential. The greater stability in some financial market variables that a successful fix of the exchange rate might have brought would have come at the cost of greater volatility elsewhere, almost certainly including incomes and employment.

15 The actual and hypothetical Canadian inflation rates coincide in the late 1960s because that is five years into the period when a peg actually existed.

Figure 5: ***Inflation with and without a Fix: Five-Year Averages at Annual Rates, 1966–2001***

Sources: Statistics Canada, CANSIM database; United States, Department of Commerce, Bureau of Economic Analysis; authors' calculations.

A Pegged Rate

This counterfactual history illustrates the key problem with a pegged exchange rate. It perpetuates the costs of maintaining two separate currencies, but it ensures greater domestic economic volatility. Pegging requires a central bank to put the exchange rate ahead of domestic economic priorities, but it leaves open the option of changing it if the resulting domestic stresses become too hard to bear.

Worse, a peg encourages speculation that can require a central bank to move more strongly against domestic needs than under a more certain regime. A country in recession, for example, may raise short-term interest rates to shore up the currency, setting in motion a vicious circle in which hardship deepens and political pressure to devalue intensifies — thereby encouraging speculation against the peg, requiring further interest-rate rises, and so on. That is why pegged exchange rate regimes are prone to crises that end in devaluations.

A Currency Board

A currency board would be more secure than a peg, although pressures would still be exerted by real exchange rate movements. Given stable and low inflation in the United States, Canadian domestic prices would rise faster than US prices when demand and world prices for Canadian exports were strong, and slower, perhaps even falling, when demand and world prices were weak. And if these forces created sufficient hardship and unemployment — as they have in Argentina recently — political and speculative pressures might be strong enough to overwhelm even a currency board.

Unilateral Dollarization

To substitute US for Canadian currency would be a politically and logistically challenging act.[16] Dollarized, Canada would therefore be less prone to stressful speculative flows than under a currency board. Unilateral dollarization is, however, an expensive proposition.

16 Presumably, the sequence of events in broad outline would be: a net US-dollar-denominated borrowing program by the federal government to add whatever is necessary to existing US-dollar-denominated assets; a purchase of US currency with the proceeds; an exchange of US for Canadian currency with every holder of the latter; and the retirement and likely physical destruction of the Canadian currency — accompanied by a cancellation of the Bank of Canada's claims against the federal government.

Canada's existing monetary base of notes and coins amounts to about $40 billion. The US currency needed to replace that base would cost an amount equal to about one-third of Ottawa's annual program spending (and about equal to Canada's surplus in the current account of its balance of payments). Of course, Canada's holdings of foreign exchange reserves — which currently stand at US$35.7 billion, of which US$19 billion is US dollar denominated — could help finance this acquisition, but such a transaction would involve exchanging an interest-bearing asset for a non-interest-bearing one, which is equivalent to adding $40 billion to the net federal debt. US assistance with such a purchase would be most helpful in alleviating this burden, but we assume that no such assistance would be available were Canada to dollarize unilaterally.

Negotiated Dollarization or a New Common Currency

No currency arrangements can eliminate the stresses that the loss of nominal exchange rate flexibility in the face of real exchange rate movements would impose on Canadians. It is possible, however, to imagine arrangements that would give Canada a voice in the shaping of North American monetary policy, making it somewhat sensitive to swings in the Canadian economy.

The effect here is unlikely in practice to be very great. Were the Bank of Canada transformed into a district bank of the Fed, its president (formerly the governor) would have a seat on the Federal Open Market Committee (FOMC), which sets monetary policy for the whole area, but would get a vote only when his or her turn to be one of the four voting district bank presidents came around. Since the FOMC has a permanent voting majority of governors of the system, who are appointees of the US president, this arrangement would be more symbolic than substantive. A fully fledged North American Monetary Union (NAMU) presumably would be designed to give Canada — and perhaps Mexico, too — a say in the design of monetary policy for the whole area, but it is hard to believe that the interests of the much bigger US economy would not dominate the decisions of such an institution.

Monetary Union and Deeper Economic Integration

Any fixed rate or common currency arrangement undertaken in isolation has macroeconomic drawbacks.

Any fixed rate or common currency arrangement undertaken in isolation has macroeconomic drawbacks. As long as the US/Canadian dollar real exchange rate continues to vary, adjustments in the relative levels of Canadian and US prices will take place. Without nominal exchange rate flexibility, such adjustments would have to occur in large part through changes in Canadian prices, including wages. As long as prices and wages in Canadian markets are less than perfectly flexible, a fixed exchange rate implies increased amplitude of swings in output and employment.

Accompanying monetary integration with freer crossborder flows, especially of labour, would alleviate these problems. If labour were as free to move across the Canadian-US border as it is from Ontario to Alberta or California to Texas, a real shock on either side of the border would shrink in significance to something akin to a shock affecting groups of provinces or states under current arrangements. So the labour market is an area where US cooperation would make a new monetary arrangement more palatable for Canada.

The Financial Sector

A new monetary order would also have important effects on the financial sector.

A new monetary order based on a fixed exchange rate or a common currency would also have important effects on the financial sector.

Under an arrangement that would preserve the Canadian dollar as a distinct currency, it would be possible to preserve Canada's existing supervisory and regulatory frameworks and maintain some of the Bank of Canada's capacity to promote financial stability. But with little or no US cooperation, such a regime would place constraints, in some cases important ones, on domestic action in these areas.

Negotiated arrangements that involve significant US cooperation — at the limit, a fully fledged NAMU with a new central bank committed to serving the whole North American financial sector and supported by an integrated supervisory and regulatory regime — would probably represent the least costly alternative to Canada's current arrangements as far as the financial sector is concerned.

A Pegged Rate

Under a peg, the Canadian and US financial systems would, in formal terms, remain largely as they are. Canada's existing money stock would continue to circulate. The Bank of Canada's policy targets would change, but its daily operations would not. The Bank would still provide liquidity to participants in payments systems and stand ready to act as lender of last resort. And Canadian regulatory authorities, principally OSFI and the CDIC,[17] would apply rules made by Canadians and would remain accountable for their actions. Against these advantages, the continued existence of separate supervisory and regulatory regimes on both sides of the border would continue to impose costs on cross-border transactions.

A Currency Board

A currency board would not require any formal changes in Canada's domestic supervisory and regulatory framework, but it would have no capacity to create domestic money at will and, therefore, could not act unilaterally to provide liquidity support. This limitation on the powers of the Canadian monetary authorities, which is also implicit in any scheme to dollarize without US cooperation, has implications for the system as a whole, including the international and domestic competitive position of Canadian financial institutions and their capacity to serve their customers efficiently.

The Bank of Canada's ability to provide liquidity to participants in Canadian payments systems currently serves two related purposes. It makes day-to-day interbank transactions easier and less costly than they would otherwise be and, under extraordinary circumstances — such as computer failures, errors, large-scale fraud, or even acts of terrorism — it ensures that a temporary liquidity crisis does

17 The Quebec Deposit Insurance Board insures deposits in provincially incorporated deposit-taking institutions in Quebec, and credit union deposits are backed by provincial bodies across the country. For convenience, we refer here to the CDIC, but most of what is said applies to provincial bodies as well. These organizations do not have formal access to assistance from the Bank of Canada in meeting their obligations, but it is fair to say that the existence of a money-creating central bank alongside such institutions increases the credibility of their guarantees.

The knowledge that a central bank can create money in unlimited amounts is critical to market confidence.

not lead to a systemic breakdown affecting large numbers of institutions and their customers.[18] Since the knowledge that a central bank can create money in unlimited amounts in such circumstances is critical to market confidence, the perceived risks of doing business with Canadian financial institutions would be higher under a currency board or unilateral dollarization than they are now.[19]

The Bank of Canada also stands willing to act as lender of last resort in the event that a Canadian bank faces a liquidity crisis. This power is not intended to bail out insolvent institutions, but it nevertheless can be useful in facilitating an orderly wind-up of a bankruptcy, including paying off insured depositors. Either way, this power can prevent localized difficulties from developing into a systemic crisis. A Bank of Canada without unlimited money-creating power would find it harder to play this role, increasing the perceived riskiness of Canada's financial institutions. The greater prospects of deflationary episodes under any fixed exchange rate regime make this issue more pressing than it might appear, since the zero floor on most nominal interest rates and the asymmetrical indexation of contracts such as pensions make falling prices toxic to the balance sheets of many financial institutions and pension funds.

There are ways of mitigating the above problems. Support that is now the responsibility of the Bank of Canada could be provided by the federal government, underpinned by its general taxing power, and lines of credit such as those that already exist could be extended.[20] The Bank itself could augment its borrowing arrangements with other financial institutions, so that it would have reserves of US dollars sufficiently large to supply liquidity to the market when needed — much as nineteenth-century central banks did under the gold standard.[21] Private sector financial institutions could also seek lines of credit and access to liquidity support from both foreign commercial banks and central banks, the Fed obviously first among them. There are, however, several drawbacks to all these options compared to the status quo.

A finite stock of reserves or borrowing facilities can never underpin financial stability as securely as the ability to create unlimited amounts of liquidity at a moment's notice. Lines of credit, particularly those negotiated by private sector banks, will be costly to maintain and, given the tendency for financial crises to spill

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18 The Canadian large-value transfer system usually operates on the basis of $50 million of reserves provided by the Bank of Canada. Because of the terrorist attacks of September 11, 2001, it was necessary to increase this amount twentyfold, to $1 billion, to keep the system working.

19 Gale and Vives (2002) note that eliminating a domestic currency lender of last resort may be an advantage in countries where monetary authorities cannot credibly precommit to allow badly managed banks to fail and/or where it is not costly to liquidate projects following financial insolvencies. The authors' search for countries where these conditions might apply turns up a handful of developing countries; they do not — aptly, in our view — even consider Canada as a candidate.

20 An undrawn line of credit of US$6 billion is currently part of Canada's international reserve arrangements.

21 Professor Alec Chrystal of the City University, London (UK) informs us that the Bank of England is able to create euro liabilities. Perhaps a similar arrangement could be negotiated between the Bank of Canada and the Fed. Note, however, that the Bank of England manages a currency that floats against the euro. To the extent that it is deemed necessary to support the stability of a currency board, such an arrangement ceases to be one that Canada can adopt unilaterally.

across national borders, least likely to be available on the terms originally envisioned at the very moments when they are most needed. The seriousness of these matters is inherently hard to assess, but the key point is that a currency board would come with a price. The Canadian financial system would appear at least slightly more risky under such arrangements and therefore a little less competitive relative to foreign rivals with liquidity support from their own central banks. Some of this reduced competitiveness might spill over to its Canadian business clients.[22]

Unilateral Dollarization

Much of what has just been said also applies to unilateral dollarization, where the US dollar becomes Canada's domestic currency without the US Federal Reserve or a successor organization actively assuming a role as Canada's central bank.

Under such a system, because the domestic provision of liquidity and lender-of-last-resort facilities would be less secure than it is now, Canadian financial institutions might wish to access these directly from the Fed. US subsidiaries and branches of foreign banks, Canadian ones included, currently have access to the Fed's discount window. This access is, however, neither unlimited nor unconditional. The Fed, which has discretion over the amounts offered and the terms attached to them, has made it clear that it expects foreign banks to take primary responsibility for the liquidity and solvency of their US branches and subsidiaries (see Board of Governors of the Federal Reserve System 1994, 48). In a crisis, the Fed might help a US branch or subsidiary of a Canadian bank for the sake of stabilizing the US monetary system. There is, however, no reason to assume that such help would extend to that bank's operations in Canada or to a bank that had no US presence, without US cooperation of a kind not envisioned under unilateral dollarization.

The extension of liquidity support from the Fed to operations of Canadian banks outside the United States is hard to imagine without an equivalent extension of supervisory authority.

US branches and subsidiaries of foreign banks that are eligible to receive central banking services from the Fed are subject to the same rules and regulations as domestic US banks.[23] The extension of liquidity support from the Fed to operations of Canadian banks outside the United States is hard to imagine without an equivalent extension of supervisory authority, either on terms identical to those applying to US banks or under arrangements providing substantially the same powers and guarantees. Canadian banks wishing access to the Fed's services might then just as well merge with, or be bought by, US banks that already have it — an unsettling prospect for those who regard a flourishing, autonomous financial industry as a national asset. Once again, then, when we look for ways to alleviate the drawbacks of unilateral dollarization, the possibility of entering into what would amount to a negotiated arrangement with the United States quickly arises.

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22 In an otherwise well-argued paper, Carmichael (2002) suggests that lender-of-last-resort functions could remain with the central banks of Canada, Mexico, and the United States, even as the three of them adopted common interest rate and inflation policies within a common currency arrangement. Carmichael's proposal does not, however, resolve potential conflicts, which in Argentina's case have recently become acutely practical, between the need to inject liquidity into a troubled banking system and the need to contain money growth at a pace consistent with the inflation target of the common currency area. Even if lender-of-last-resort operations are, as a practical matter, carried out by a national branch of a central banking system, their successful execution requires systemwide cooperation.

23 The US *Monetary Act of 1980* lays out these conditions. See also Board of Governors of the Federal Reserve System (1994, esp. 43–48, 78–81).

Negotiated Dollarization or a New Common Currency

Several issues are relevant to the efficiency and soundness of Canada's financial sector, and the prosperity of the Canadian economy should Canada seek US cooperation in dollarizing.

Important differences now exist between US and Canadian financial supervisory and regulatory regimes. The functions performed in Canada by the CDIC (and to a lesser extent provincial deposit insurance bodies) and OSFI are, in the US system, shared among the Federal Deposit Insurance Corporation (FDIC), the Comptroller of the Currency and the Fed. Under negotiated dollarization, Canadians would need to accommodate to different practices as well as different institutions.

Under negotiated dollarization, Canadians would need to accommodate to different practices as well as different institutions.

Harmonized North American deposit insurance, for example, could involve folding the operations of the CDIC and its provincial counterparts into those of the FDIC, or leaving the institutions separate but constraining their operations to run along parallel lines. Either way, and assuming that US practices would dominate, the nature of Canada's deposit insurance regime would likely change. Limits would rise — US deposit insurance covers up to US$100,000 for each owner of any particular type of account, whereas Canadian insurance covers up to C$60,000 and is more restrictive in the amounts allowed to individual depositors — and the range of deposits covered would increase.

Canada has not chosen to imitate US practices in this area, and perhaps with good reason. The design of US deposit insurance has been less adept in the past, giving more scope to moral hazard, which contributed, among other things, to the savings and loan collapses of the 1980s. The greater likelihood of failures under the US regime has been reflected in higher fees over the past decade: US deposit-taking institutions paid premiums equal to some 12 basis points of their deposits from 1991 to 1999, while their Canadian counterparts paid 7 basis points.[24] The US regime has recently undergone major reforms, and past experience may not be a reliable guide to the future. At the moment, however, we think that US banks would not readily accept monetary integration that left Canadian banks with a deposit insurance regime that was different from, and less costly in current premiums than, the one currently in place in the United States.[25]

A harmonized regulatory regime would also bring change to Canada. In some respects, OSFI's regulatory ambit — oversight of federally chartered financial institutions — is comparable to that of the US Comptroller of the Currency's responsibility for US "National Banks." But other spheres of control are quite

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24 Comparing Canadian and US deposit insurance rates requires some care. Snapshots at a moment in time can be misleading if the past costs of paying for failed institutions are lumpy and partly shouldered by taxpayers (as was the case in the United States), and if prospective failures are not properly reflected in current rates. As noted, moreover, the two regimes insure different types of accounts and have different caps per depositor, with the result that the share of total deposits insured is considerably lower in Canada than in the United States. For these reasons, and because the recent adoption of differential risk-based premiums in both countries makes selecting a "representative rate" problematic, we think that average rates as a share of total deposits over time represents the best available comparison.

25 Eisenbeis and Wall (2002) provide a useful account of recent changes in US deposit insurance coupled with an analysis of their likely success in mitigating moral hazard.

different. For instance, the Fed currently oversees and enforces consumer protection measures in the banking industry and also has responsibility for approving or modifying mergers of financial institutions. In Canada, the former functions rest with the recently created Financial Consumer Agency and the latter with the Competition Bureau and the minister of finance.

A further difference between Canadian and US central banking practices is worth a passing comment. US banks are subject to reserve requirements that require a portion of their deposits to be partially backed by non-interest-bearing deposits with the Fed. Canada has abandoned this practice. Reserve requirements are like a tax, increasing the cost of financial intermediation, and although these requirements have dwindled in importance for US banks over time (Bennett and Peristrini 2002), we doubt that US banks would tolerate exempting Canadian banks from them if the two financial systems became more integrated.

Canada's financial sector would undergo important changes with negotiated dollarization.

In short, Canada's financial sector would undergo important changes with negotiated dollarization. To gain access to central banking services from the Fed, including the discount window, Canadian banks would likely have to submit to the Fed's reserve requirements and assume other regulatory encumbrances, such as the US *Community Reinvestment Act*.[26] Collectively, these constitute a regulatory framework inferior to that under which Canada's banks currently operate — a particularly awkward prospect at a time when the North American and world banking industries are in a state of flux. All these considerations apply with equal force to scenarios involving the creation of a fully fledged NAMU with a common central bank. In either case, the challenges facing the financial sector are considerable.

The Nonfinancial Sector

The effects of a new monetary order on the nonfinancial sector are at the core of the case that many proponents of change make. Will a fix increase prosperity by making prices more transparent and sharpening the incentives for private sector managers and public sector policymakers? That is one of the hardest questions to answer, making comparisons with the current regime difficult. Again, however, it seems reasonable to speculate that these effects — which would alter the forces behind the US/Canadian dollar real exchange rate — are likelier the more complete and final is the change in monetary arrangements. And again, the less radical options are therefore also less appealing.

A Pegged Rate or a Currency Board

Neither a peg nor a currency board holds much hope for decisively improving Canadian productivity. Such fixes would do relatively little for price transparency, since they would leave two currencies, whose exchange rate may change again in the future, in place. The continued existence of the two currencies would also mean that the transaction costs of exchanging them would continue to exist. Because a

26 Enforcement of the act is the responsibility of the Federal Reserve. Canada's chartered banks have opposed similar legislation in Canada, a position with which we agree.

peg would be easy to undo, and since a currency board would also preserve the institutional capacity to float again, both regimes would offer businesses and governments under pressure an easier option than sharpening their decisionmaking skills and making difficult choices.

Argentina provides a vivid reminder that policy reform under a fixed exchange rate is by no means automatic and that the safety-hatch of a return to floating can make things worse. Many economic policies in Argentina deteriorated when macroeconomic pressure built up under a fixed exchange rate: the depressed economy fostered profligate fiscal policy at the subnational level, and Argentina violated its obligations to its partners in the Mercosur trade agreement by raising tariffs in 2001. Then, in 2002, the crisis leading up to and following the abandonment of the fix led to several damaging financial measures, including limits on bank withdrawals, forced conversions of dollar assets into pesos, and ultimately debt default. Canada, as noted, has recently shown that key improvements in trade and fiscal policy can occur under a flexible exchange rate.

Unilateral or Negotiated Dollarization

The complete elimination of transaction costs, greater transparency of prices, and better private and public sector decisions would be likelier under dollarization. The economic trauma inflicted by such a change would be severe for many Canadians (especially those who had hoped for a one-to-one conversion!), but the pain itself is part of the case proponents make: it might focus Canadians' minds more closely on the need to improve their economic performance. Indeed, as we noted earlier, some commentators place great emphasis on the capacity of a common currency to create trade and economic growth. Frankel and Rose's (2000) estimate of a 36 percent increase in Canadian GDP on the creation of a common currency has been widely cited, most recently by Carmichael (2002).

Here, however, a little caution is in order. This estimate, like others similar to it that Rose and a variety of collaborators have generated, derives from a sample of currency unions heavily weighted with groupings of economically small, less-developed countries and their former colonial rulers. It is far from obvious that their experience, even if correctly captured by Frankel and Rose's analysis (itself a matter of controversy), can be extrapolated safely to the North American case. And there is evidence on the other side, too. Thom and Walsh (2002) look for deleterious effects on the Irish economy of the abandonment of its monetary union with the United Kingdom in 1979 — and find none at all.

A natural experiment on the effects of a common currency is now under way in Europe.

It is also worth noting that a natural experiment on the effects of a common currency is now under way in Europe, because not all members of the European Union currently use the euro. It would, of course, be premature to draw strong conclusions so early in the day. Nevertheless, the European experiment will in due course throw valuable light on the effects of monetary union versus national currencies on the economic performance of closely integrated advanced economies. So far, there has been no obvious deterioration of the economic performance of the United Kingdom, Denmark, or Sweden, relative to that of members of the euro zone.

None of this is to deny that, if monetary integration were accompanied by further liberalization of crossborder flows, especially of people, Canada's capacity

to compete in the North American market would improve as well. The question, however, is by how much. And again, we must emphasize that US cooperation on both financial and nonfinancial matters would affect the prospects for achieving a monetary order that is potentially superior to the current one.

Political Considerations

Throughout this discussion, we have identified areas where US cooperation might make a US-dollar-based monetary order less costly to Canada — perhaps even to the point of making it an attractive alternative to the current order, from an economic standpoint.

The Problems with Unilateral Options

The options that Canada could adopt unilaterally tend to be problematic, either because things that are easy to do are also easy to undo, or because these options deprive Canada of economic flexibility and political control without providing offsetting benefits.

A peg would not be a credible basis for a new Canadian monetary order.

A peg. It is straightforward for the federal government to peg Canada's exchange rate. It would require no negotiations with the United States — indeed, it would require no legislation, simply an order-in-council. But because it would be as easy to abandon a peg as to adopt it, a peg would not be a credible basis for a new Canadian monetary order.

A currency board. Creating a currency board could also be a unilateral act. Although the continued existence of a distinctive national currency would make the future abandonment of a board all too easy, its establishment would require legislation to amend the *Bank of Canada Act* to curb the Bank's ability to create money — so it would likely be more credible than a peg. A currency board's inability to create money at will would, however, deprive Canada of a key mechanism for providing liquidity support to the financial sector, bringing into sharp relief the problems of an option in which US agreement to provide central banking services to Canadian institutions on reasonable terms would not have been secured.

Dollarization. Since it would involve the Canadian dollar's elimination, dollarization would be the most durable and, therefore, credible unilateral option. In this case, however, the desirability of obtaining US cooperation would emerge even more strongly, not only as it pertains to financial system support in a crisis, but also in regard to seigniorage, the provision of day-to-day central banking services, the supervision and regulation of financial institutions, and the liberalization of crossborder flows, especially of labour.

What Canada Would Want

How likely is it that negotiations with the United States would produce the cooperation that plays so key a role as we calculate the economic costs and benefits of abandoning the current monetary order?

Seigniorage

Seigniorage might appear politically easy to negotiate. Printing the necessary additional US dollars would cost US taxpayers no more than the paper and ink involved, and future use of the US dollar by Canadians would provide a small amount of ongoing seigniorage revenue to the US government. Some US commentators (United States 1999) have suggested that the United States should share seigniorage revenues with dollarizing countries.

Some members of Congress would see the free transfer of large amounts of currency as a hard sell.

But many Americans would not agree. After all, the alternative would be for Canada to purchase currency with real goods and services. Some members of Congress would see the free transfer of large amounts of currency as a hard sell, given that their constituents regard Canada, rightly or wrongly, as a country inclined to "subsidize" such industries as softwood lumber and movie production.

Central Banking Services from the Fed

Obtaining key central banking services — liquidity support for payments systems and lender-of-last-resort facilities — from the Fed would make dollarization more congenial for Canada. But US comments on this possibility thus far have not been promising: When Argentina tried to negotiate the dollarization of its economy in 1999, then-deputy secretary of the US Treasury, Lawrence H. Summers, stated the US position on these matters at that time in quite general terms:

> [T]here are certain limits on the steps that the United States would be willing to take in the context of [another country's decision to dollarize]. Specifically, it would not, in our judgment, be appropriate for the United States authorities to extend the net of bank supervision, to provide access to the Federal Reserve discount window, or to adjust bank supervisory responsibilities or the procedures or orientation of U.S. monetary policy in the light of another country deciding to adopt the dollar. (Summers 1999.)

We have already argued that getting the United States to move off this position would require important changes in Canada, harmonizing a number of practices and regulatory structures with those in the United States. Deposit insurance, regulations such as the *Community Reinvestment Act*, reserve requirements — all these are areas where US financial institutions are likely to object to the continuation of Canadian practices that could be seen as conferring a competitive advantage north of the border.

Regulatory harmonization at this point in the economic development of both countries also raises important questions of accountability that negotiators would have to confront. Banking is in a state of flux. Technological changes are blurring lines of business and revolutionizing payments systems everywhere. Some institutions will divest themselves of or acquire lines of business; others are going to merge; a few may fail. To meet these challenges, most Canadians and Americans would probably prefer the rules governing the sector and the creative ambiguity that regulators must often use to rest on authority granted by people for whom they can vote. To the extent that elected representatives on either side of the border are reluctant to compromise their autonomy in these matters for the sake of

representatives on the other side, the outlook for successful negotiated dollarization or the creation of a monetary union is dim.

A Common Central Bank

Advocates of a completely integrated North American monetary system envision more far-reaching Canadian-US cooperation in which the Bank of Canada would merge with the Fed. This approach would give Canada the voice at the monetary table that unilateral or less cooperative approaches would not. Since the United States is not about to construct a new central bank, the only plausible approach to this end would be adapting the Bank of Canada to fit into the Federal Reserve System. But even this less radical step would not be as politically straightforward as is sometimes supposed.

The institutional structures of the Canadian and US central banks are markedly different.

The institutional structures of the Canadian and US central banks are markedly different. The Bank of Canada is a federal Crown corporation, but each of the 12 Federal Reserve district banks is owned by the commercial banks in its district.[27] This ownership is limited in significance — unlike common shares in most private businesses, the shares of Federal Reserve banks cannot be sold or used as collateral — but it does confer the ability to nominate six of the nine directors on each district bank's board, and it represents a detail that could end up larger than life in a complicated negotiation.

Even if the Canadian electorate could be persuaded to turn ownership of the Bank of Canada over to the banking industry, the United States might not readily accept its reconfiguration as a new Fed district bank. There are typically thousands of banks in a Federal Reserve district, and a small number of banks cannot dominate a district bank's board. The situation in Canada, where the industry is far more concentrated and the number of banks smaller, would be quite different. The United States, with its long-standing suspicion of concentration in banking, might well decide that its own model was badly adapted to Canadian circumstances and refuse to add the Bank of Canada to the system.[28]

Further Border Liberalization, Including Labour

Finally, we have noted the economic desirability of accompanying monetary integration with other measures that would liberalize the flow of goods, services, capital, and people across the Canadian-US border. Such liberalization would ease the macroeconomic stresses of a common currency, just as the free flows of labour among Canadian provinces and US states ease the stresses within their respective currency areas.

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27 Each bank must own shares in an amount equal to 3 percent of its capital and surplus. Member banks are entitled to an annual dividend of 6 percent; all other profits generated by the district bank go to the US government.

28 On the other hand, a move to "sell off" the Bank of Canada to the chartered banks — accompanied by encouraging more US banks to operate in Canada and participate in its ownership — would not, we believe, appeal to Canadian voters. And Canadian unwillingness to adapt to US practice even in such apparently trivial matters as these could prove a formidable obstacle to the negotiations.

But liberalized flows across the border are hardly a new objective of Canadian policy, and Canadians should not count on the United States' willingness to add to what has already been achieved in the NAFTA and multilateral forums. Indeed, what is striking at the moment is how hard Canada is having to work to keep the border as open as it has been, with new barriers against softwood lumber, increased subsidies to agriculture, greater restrictions on the movement of people, and general security-related frictions threatening to make North America less economically integrated, not more.

Awkward Politics

In surveying the prospects for successful negotiations on these fronts, we are struck forcefully by the slim grounds for expecting much in the way of US concessions to Canadian desires.

US Concessions in a Monetary Negotiation

US public opinion seems markedly hostile to this sort of project.

US public opinion seems markedly hostile to this sort of project. In a spring 2002 survey (NFO CFgroup 2002) two-thirds of US respondents said they disliked the idea of Canada using US dollars, and 84 percent of respondents rejected the notion of a new common currency for Canada, the United States, and Mexico.

A case can be made that currency competition from the euro might, in the long run, undermine the international standing of the US dollar enough to interest the United States in ways to extend the US dollar area, but such a possibility would be too far off to help Canada in any negotiations opened in the near term. Nor is there much evidence that another possible incentive for the United States to cooperate with dollarizing countries — the prospect that dollarizing countries would intensify their trade and investment links with the United States — commands politically significant support south of the border. Indeed, the fact that many Canadians advocate unilateral adoption of the US dollar, and that citizens of other countries support it even more strongly, would only discourage the United States from making concessions to bring it about (Robson 2001).

As Weintraub and Sands (2002) note, expressing a US view of the issue:

> Since the United States has nothing tangible to gain from the formal Canadian adoption of its currency, Washington policymakers will be leery of offering any encouragement to Canada that could serve to draw the U.S. government into a domestic Canadian debate over sovereignty....Should Canada wish to switch to U.S. dollars, it must take this decision alone.[29]

If Canada seeks monetary integration with the United States, then it will do so as a demander, and the United States will have no motivation to make concessions to Canada in the monetary area without something else being on offer.

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29 Benjamin Cohen of the University of California at Santa Barbara has expressed similar sentiments, recently remarking, on the prospects for a NAMU, that "[t]he real challenge is how to achieve commitment in the first place — how to get from Here to There. Political barriers could prove to be unsurmountable" (Cohen, undated).

The Prospect of US Concessions

In the current state of North American relations, it is possible to imagine Canada's putting more on the table. Beginning with a Canada Day 2001 *National Post* interview with US Ambassador Paul Cellucci, the Bush administration has expressed an interest in further integration of the Canadian, US, and Mexican economies. Developments following the September 2001 terrorist attacks may have increased the number of areas in which it is possible for Canada to engage US interest.

However, some measures to facilitate crossborder trade and deeper integration of continental energy markets may be the limit of the US agenda. The United States has shown no interest in North American economic integration at the level of a single market in goods and labour in which it, Canada, and perhaps Mexico would jointly adopt common economic frontiers and internal regulations. As noted, preserving the openness of the border at its current level may prove to be a major challenge for Canada. And the United States has explicitly denied any interest in the creation of supranational institutions such as those that characterize the European Union.[30]

The United States has explicitly denied any interest in the creation of supranational institutions.

The most promising approach to making monetary integration attractive to the United States, then, would be for Canada to bring something to the table that is in neither the monetary nor the regular commercial sphere. Deeper discussion of what that might be is beyond the scope of this paper, although energy, exports of fresh water, or new and closer defence and security cooperation are all obvious candidates (see Dobson 2002).

Final Thoughts

This survey leads us to three concluding points, two cautionary and one positive.

On the cautionary front, we note that, as the demander in any monetary negotiations, Canada would almost certainly have to "pay" for monetary accommodations from the United States with concessions in other areas. Given the uncertain benefits of a US-dollar-based monetary order, it is not clear why Canada should trade away something valuable and possibly difficult to deliver for monetary favours when there are other issues in Canadian-US relations where Canada has more obvious benefits to gain.

The second cautionary note is that launching an unsuccessful effort at North American monetary integration could catch Canadians uncomfortably in the middle (see Laidler and Poschmann 2000; Robson 2001). Giving up a flexible exchange rate and inflation targets without achieving full integration could impose important up-front and/or continuing costs on Canadians without producing the conditions necessary for many of the benefits that dollarization advocates expect to occur.

On a positive note, we reiterate that the past decade provides ample evidence of the virtues of Canada's current monetary order. The most obvious charge against it — that it has allowed the Canadian dollar to lose ground against the US dollar — is probably misplaced, since there are reasons unrelated to the exchange rate regime

30 Fife and Toulin report that "[w]hile [US ambassador] Cellucci said there is no interest in a comprehensive European Union style economic and political union, the flow of commerce and people should be eased" (2001, A1).

itself behind the decline of the exchange rate. There is also plenty on the positive side of the ledger: inflation has stayed close to the target set for it, the Bank of Canada's operations have become more transparent, and the monetary environment clearly has not been an obstacle to fiscal consolidation and other key improvements in economic policy. Maintaining the current order is no threat to Canadian prosperity.

Conclusions

Our review of the economics and politics of various possibilities for Canada's adopting a US-dollar-based monetary order reveals an interesting pattern. On the one hand, systems that are politically feasible and that Canada could adopt unilaterally seem to be economically undesirable. Yet systems that are more economically desirable seem to be less politically feasible: their creation would require difficult political decisions from Canada, as well as cooperation from the United States in matters where Americans have little to gain and have shown little interest.

In our view, the effort required to obtain US cooperation on the monetary front is disproportionate to any benefits that a US-dollar-based order is likely to produce. We doubt that abandoning the current monetary order would boost productivity or improve policymaking. Indeed, the low and stable inflation Canada is now experiencing under current arrangements provides a good environment in which to tackle the regulatory and tax issues that currently keep the country economically a step behind the United States. As to the long-term depreciation of the Canadian dollar, the burden of proof is squarely on those who attribute this trend to the exchange rate regime, rather than to fundamental forces that would have exerted downward pressure on domestic wages and prices in the absence of a declining exchange rate.

The low and stable inflation Canada is now experiencing provides a good environment in which to tackle regulatory and tax issues.

If this conclusion disappoints those who see the challenges of improving Canadian prosperity and deepening North American integration as so great that only dramatic steps can meet them, we would observe that overcoming major challenges requires extraordinary concentrations of energy. A more prosperous Canada and a more secure Canadian-US economic relationship are indeed key objectives. Achieving them is far likelier, however, if their advocates pursue them through tools directly suited to the task, such as tax reform and reforms to trade remedy laws, rather than dissipating their energies in an effort to overthrow a monetary order that is serving Canadians well.

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